

NOAA In Your State

Tennessee

“NOAA’s science based work touches 300 million Americans daily, protecting lives and livelihoods. NOAA’s products and services are the result of the hard work of our dedicated staff and partner organizations located in program and research offices throughout the globe. The following is a summary of NOAA programs based in, and focused on, your state or territory. The entries are listed by statewide, region, and then by congressional districts and cities or towns.”

Dr. Kathryn Sullivan

Under Secretary of Commerce for Oceans and Atmosphere and NOAA Administrator

TN

Statewide

National Ocean Service (NOS) - [Regional Geodetic Advisor Coordinator](#)

Through a cooperative agreement and part of the National Ocean Service (NOS) State Advisor Program, the State Geodetic Coordinator is a State employee that serves as liaison between NOS and the host state. In this method, NOS helps guide and assist the State's charting, geodetic and surveying programs through technical transfer. This program also provides assistance in planning and implementing Geographic/Land Information System (GIS/LIS) projects.

National Weather Service (NWS) - Automated Surface Observing Systems [Stations](#)

The Automated Surface Observing Systems (ASOS) program is a joint effort of the National Weather Service (NWS), the Federal Aviation Administration (FAA), and the Department of Defense (DOD). ASOS serves as the Nation's primary surface weather observing network. ASOS is designed to support weather forecast activities and aviation operations and, at the same time, support the needs of the meteorological, hydrological, and climatological research communities. ASOS works non-stop, updating observations every minute, 24 hours a day, every day of the year observing basic weather elements, such as cloud cover, precipitation, wind, sea level pressure, and conditions, such as rain, snow, freezing rain, thunderstorms, and fog. There are 9 ASOS stations in Tennessee.

National Weather Service (NWS) - Cooperative Observer Program [Sites](#)

The National Weather Service (NWS) Cooperative Observer Program (COOP) is truly the Nation's weather and climate observing network of, by and for the people. More than 10,000 volunteers take observations on farms, in urban and suburban areas, National Parks, seashores, and mountaintops. The data are representative of where people live, work and play. The COOP was formally created in 1890 under the NWS Organic Act to provide observational meteorological data, usually consisting of daily maximum and minimum temperatures, snowfall, and 24-hour precipitation totals, to provide observational meteorological data in near real-time to support forecast, warning and other public service programs of the NWS. The data are also used by other federal (including the Department of Homeland Security), state and local entities, as well as private companies (such as the energy and insurance industries). For example, the energy sector uses COOP data to calculate the Heating and Cooling Degree Days which are used to determine individuals' energy bills monthly. There are 169 COOP sites in Tennessee.

National Weather Service (NWS) - NOAA Weather Radio All Hazards [Transmitters](#)

NOAA Weather Radio All Hazards (NWR) is a nationwide network of radio stations broadcasting continuous weather information directly from the nearest National Weather Service (NWS) forecast office. NWR broadcasts official NWS warnings, watches, forecasts and other hazard information 24 hours a day, 7 days a week. Working with the Federal Communication Commission's (FCC) Emergency Alert System, NWR is an "All Hazards" radio network, making it the single source for comprehensive weather and emergency information. In conjunction with federal, state, and local emergency managers and other public officials, NWR also broadcasts warning and post-event information for all types of hazards – including natural (such as earthquakes or avalanches), environmental (such as chemical releases or oil spills), and public safety (such as AMBER alerts or 911 Telephone outages). Known as the "Voice of NOAA's National Weather Service," NWR is provided as a public service by the NWS. NWR includes 1,100 transmitters covering all 50 states, adjacent coastal waters, Puerto Rico, the U.S. Virgin Islands, and the U.S. Pacific Territories. There are 21 NWR transmitters in Tennessee.

TN-1

Morristown/Knoxville/Tri-Cities

National Weather Service (NWS) - [Weather Forecast Office](#)

This NWS Weather Forecast Office (WFO) is staffed around-the-clock every day, and provides the best possible weather, water, and climate forecasts and warnings to residents of eastern Tennessee and western portions of Virginia and North Carolina. Highly trained forecasters issue warnings and forecasts for events, including severe thunderstorms, tornadoes, winter storms, floods, and heat waves. This essential information is provided to the general public, media, emergency management and law enforcement officials, the aviation and marine communities, agricultural interests, businesses, and others. Information is disseminated in many ways, including through dedicated government channels, satellite, the Internet, and NOAA Weather Radio All Hazards.

Forecasters also provide Impact-based Decision-Support Services (IDSS), both remotely and on-site, during critical emergencies, such as wildfires, floods, chemical spills, and for major recovery efforts such as those following the Joplin and Moore tornadoes, Hurricanes Katrina and Sandy, and the Sept. 11, 2001, terrorist attacks in New York City and Washington D.C. The WFO collects and disseminates precipitation, river, and rainfall data, and prepares local climatological data. Each WFO has a Warning Coordination Meteorologist who actively conducts outreach and educational programs, which helps build strong working relationships with local partners in emergency management, government, the media and academic communities. The WFO operates Automated Surface Observing Stations (ASOS), as well as the local Doppler Weather Radar, which provides critical information about current weather conditions. The radar data enables forecasters to issue warnings for tornadoes, severe thunderstorms, and flash floods.

TN-3

Anderson County

Office of Oceanic and Atmospheric Research (OAR) - [Atmospheric Integrated Research Monitoring Network](#)

A NOAA Atmospheric Integrated Research Monitoring Network (AIRMoN) site is located in the Walker Branch Watershed, Oak Ridge (Anderson County), TN. The site has been in operation since 1992 collecting data on major ions in precipitation (rain, snow) on a daily basis, and previously since 1980 on an event basis. The major ions collected include: sulfate, nitrate, phosphorus, pH, ammonium, sodium, chloride, and soil cations. AIRMoN is a sub-network of the National Atmospheric Deposition Program.

Oak Ridge

Office of the Chief Information Officer (OCIO) - [High Performance Computing and Communications](#)

The Office of the Chief Information Officer manages research and development high performance computing for weather and climate modeling, research, and predictions, supporting improvements in areas such as the prediction of severe weather, seasonal prediction of temperature and precipitation, and forecasting the next Sandy-like storm.

Office of Oceanic and Atmospheric Research (OAR) - [Atmospheric Turbulence and Diffusion Division](#)

The Atmospheric Turbulence & Diffusion Division (ATDD) of ARL is located in Oak Ridge (Anderson County), TN. ATDD concentrates on air quality and climate-related research directed toward issues of national and global importance. In their air quality research, ATDD develops better methods for predicting transport, dispersion, and air-surface exchange of air pollutants; applies these methods to increasingly realistic situations including nighttime cases, complex terrain, and non-uniform surfaces; and tests these methods against data to determine the confidence limits and uncertainties, which apply. ATDD's climate-related research includes reference-grade measurement of climate change and related physical and chemical processes.

Office of Oceanic and Atmospheric Research (OAR) - [Forest Carbon Sequestration Study](#)

NOAA is conducting research into quantifying the amount of atmospheric carbon taken up annually by forested ecosystems. Data have been and continue to be collected from towers, both above and below the forest canopy. One tower, located within the Walker Branch Watershed, collected data from the mid-1990s until it closed in 2004. A second tower, the Chestnut Ridge tower, has been collecting data since 2004.

Office of Oceanic and Atmospheric Research (OAR) - [Global Energy and Water Exchanges Project](#)

NOAA has several observational sites that support the World Climate Research Programme's Global Energy and Water Exchanges Project (GEWEX). One of NOAA's GEWEX sites is located near Oak Ridge, TN. GEWEX sites were established to provide detailed measurements (such as turbulent fluxes of heat, water vapor, momentum, carbon dioxide, air temperature, and relative humidity) and other information about the physical and biological processes that occur at the land/surface interface. Observations from these sites are being used to test and improve the current generation of land surface models that are used for both regional and global climate prediction.

TN-5

Nashville

Office of Oceanic and Atmospheric Research (OAR) - [Total Column Ozone Measurements](#)

NOAA's Earth System Research Laboratory (ESRL) makes measurements of the column amounts of ozone between the earth's surface and the top of the atmosphere at a number of locations around the United States, including Nashville, TN. The observations are obtained with ground-based spectrometers that measure the attenuation by ozone of ultraviolet light. This integrated ozone amount is critical in determining the amount of ultraviolet radiation reaching the earth's surface. Column ozone measurements monitor changes in the stratospheric ozone layer resulting from human-produced chlorine and bromine compounds that destroy ozone. With controls now in place on the manufacture and use of these ozone-destroying compounds, it will be important to monitor the ozone layer for the expected recovery and determine whether other factors such as long-term climate change are influencing this recovery.

TN-6

Crossville

National Environmental Satellite, Data, and Information Service (NESDIS) and Office of Oceanic and Atmospheric Research (OAR) - [U.S. Climate Reference Network](#)

The U.S. Climate Reference Network (USCRN) is an operationally viable research network of 134 climate stations that are deployed nationwide. Data from the USCRN are used in various climate monitoring activities and for placing current climate anomalies into an historical perspective. The USCRN provides the United States with a reference network that contributes to an International network under the auspices of the Global Climate Observing System (GCOS).

Nashville

National Weather Service (NWS) - [Weather Forecast Office](#)

This NWS Weather Forecast Office (WFO) is staffed around-the-clock every day, and provides the best possible weather, water, and climate forecasts and warnings to residents of central Tennessee. Highly trained forecasters issue warnings and forecasts for events, including severe thunderstorms, tornadoes, winter storms, floods, and heat waves. This essential information is provided to the general public, media, emergency management and law enforcement officials, the aviation and marine communities, agricultural interests, businesses, and others. Information is disseminated in many ways, including through dedicated government channels, satellite, the Internet, and NOAA Weather Radio All Hazards.

Forecasters also provide Impact-based Decision-Support Services (IDSS), both remotely and on-site, during critical emergencies, such as wildfires, floods, chemical spills, and for major recovery efforts such as those following the Joplin and Moore tornadoes, Hurricanes Katrina and Sandy, and the Sept. 11, 2001, terrorist attacks in New York City and Washington D.C. The WFO collects and disseminates precipitation, river, and rainfall data, and prepares local climatological data. Each WFO has a Warning Coordination Meteorologist who actively conducts outreach and educational programs, which helps build strong working relationships with local partners in emergency management, government, the media and academic communities. The WFO operates Automated Surface Observing Stations (ASOS), as well as the local Doppler Weather Radar, which provides critical information about current weather conditions. The radar data enables forecasters to issue warnings for tornadoes, severe thunderstorms, and flash floods.

TN-9

Memphis

National Weather Service (NWS) - [Center Weather Service Unit](#)

Housed in the Federal Aviation Administration's Memphis Air Traffic Control Center (ARTCC), the NWS Center Weather Service Unit (CWSU) provides forecasts and other weather information to ARTCC personnel for use in directing the safe, smooth flow of aviation traffic in Arkansas, northern Mississippi, western Tennessee, and northwestern Alabama.

National Weather Service (NWS) - [Weather Forecast Office](#)

This NWS Weather Forecast Office (WFO) is staffed around-the-clock every day, and provides the best possible weather, water, and climate forecasts and warnings to residents of western Tennessee, northern Mississippi, northeastern Arkansas, and the boot-heel of Missouri. Highly trained forecasters issue warnings and forecasts for events, including severe thunderstorms, tornadoes, winter storms, floods, and heat waves. This essential information is provided to the general public, media, emergency management and law enforcement officials, the aviation and marine communities, agricultural interests, businesses, and others. Information is disseminated in many ways, including through dedicated government channels, satellite, the Internet, and NOAA Weather Radio All Hazards. Forecasters also provide Impact-based Decision-Support Services (IDSS), both remotely and on-site, during critical emergencies, such as wildfires, floods, chemical spills, and for major recovery efforts such as those following the Joplin and Moore tornadoes, Hurricanes Katrina and Sandy, and the Sept. 11, 2001, terrorist attacks in New York City and Washington D.C. The WFO collects and disseminates precipitation, river, and rainfall data, and prepares local climatological data. Each WFO has a Warning Coordination Meteorologist who actively conducts outreach and educational programs, which helps build strong working relationships with local partners in emergency management, government, the media and academic communities. The WFO operates Automated Surface Observing Stations (ASOS), as well as the local Doppler Weather Radar, which provides critical information about current weather conditions. The radar data enables forecasters to issue warnings for tornadoes, severe thunderstorms, and flash floods.

NOAA In Your State is managed by [NOAA's Office of Legislative and Intergovernmental Affairs](#) and maintained with information provided by NOAA's Line and Staff Offices. Questions about specific programs or offices should be directed to the NOAA Line or Staff Office listed.

More information for those offices may be found at [NOAA.gov](#).

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Tennessee

NOAA NATIONAL OCEANIC AND
ATMOSPHERIC ADMINISTRATION
UNITED STATES DEPARTMENT OF COMMERCE

